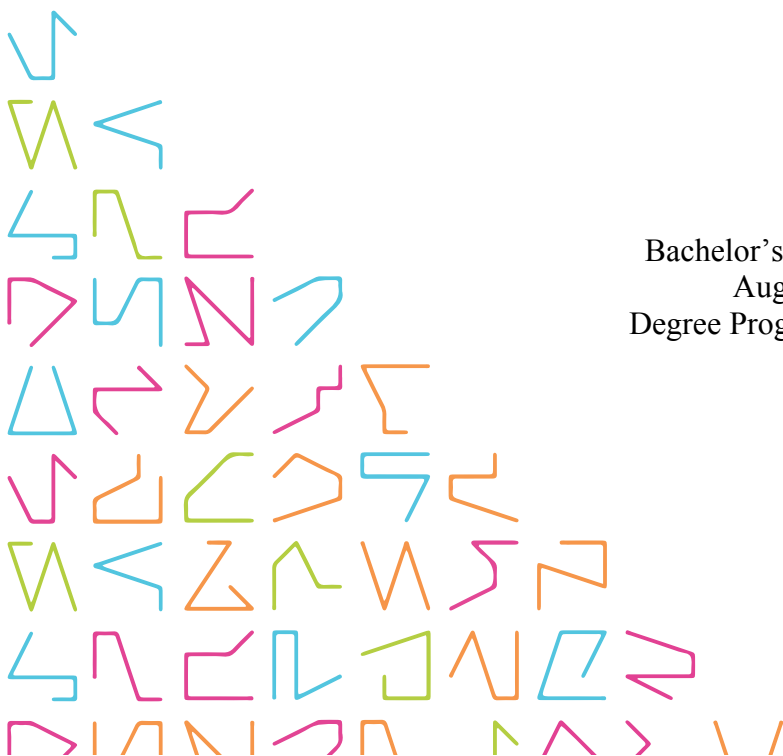


Affecting the Mood of a Video with Colour Grading

Colour Grading in DaVinci Resolve

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ABSTRACT

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The purpose of the thesis was to examine how much it is possible to affect the mood of the video with colour grading. The research was carried out by applying different grades to the same video and creating a survey based on them. The respondents were asked questions regarding the mood that the video conveys. Finally, the collected data is analyzed by comparing how much the answers vary between differently graded videos.

Five different video examples were made by imitating the styles of different genres in movies and examining the appearance of a certain genre or mood can be achieved with only changing the colours in the video without making any changes to sound, edit, the style of filming, the plot or acting.

In the empirical part of the thesis the process of colour correcting and grading the videos as well as the practices behind it are explained with example photos of the process. Also, some general features of the colour grading program Davinci Resolve are presented.

It is known that colour grading influences the video's mood, but there are also many other factors that affect it, like music, plot and the way the video has been shot. The survey was made without audio and other elements were also excluded to see how much only colour can change the mood of the video. The created grades are experiments based on the author's observations and interpretations from different films.

Key words: colour grading, colour correction, video, davinci resolve

CONTENTS

1	INTRODUCTION.....	6
2	COLOUR CORRECTION.....	7
2.1	The basics of video colour correction.....	7
2.1.1	Colour correction process	8
2.1.2	Using Look up tables	11
3	COLOUR GRADING	13
3.1	The basics of colour grading.....	13
3.1.1	Affecting the mood of a film with colour grading.....	13
3.2	Grading colour styles for survey.....	15
3.2.1	Creating Orange and Teal Look.....	16
3.2.2	Creating Night Look	19
3.2.3	Creating Romantic Vintage Look	21
3.2.4	Creating Apocalyptic Look.....	22
3.2.5	Creating Golden Look.....	23
4	SURVEY	25
5	DISCUSSION	28
	REFERENCES	29

ABBREVIATIONS AND TERMS

Look up table (LUT)	Look up table is a mechanism used to transform a range of input colour into another range of colours.
Davinci Resolve	Node based computer software from Black Magic for colour grading videos.
Contrast	The difference in between dark and light tones.
Tonality	The amount of grade shades in a picture, also assimilated to contrast.
Video scopes	Graphical demonstration of a video signal.
Flat	A colour space that represent the video with a low contrast and broader colour information.
Log	A colour recording profile for video cameras.
Slog2	A recording profile for Sony cameras.
Colour profile	A set of data that characterizes a colour input or output device, or colour space, according to standards promulgated.
White balance	Defining neutral tones, so that objects which appear white are rendered white.
Exposure	Amount of light per unit area reaching a photographic film or electronic image sensor, as determined by shutter speed, lens and scene luminance.
Saturation	Attribute of perceived colour relating to chromatic intensity
Lift	A term used for dark tones or shadows in colour editing software.
Gamma	A term used for mid tones in colour editing software.
Gain	A word used for highlight in colour editing software.
Orange and Teal	Also called Blockbuster, a style of colour grading in films.
Video filter	A video filter is a software component that is used to decode audio and video (for creating different styles for the footage.)
Noise	Pixel like dots that appear in the image, usually when the footage is shot in low light situation.
Look	Style achieved with colour grading.
Teal	Medium blue-green colour
Secondary colour	

correction	Altering a part of an image by isolating an area with tools in digital photo and video editing programs.
Layer composite mode	Also called blending mode. Determines how two layers are blended into each other.

1 INTRODUCTION

Colour correction and grading are a very important part of the post production of a video. Colour grading can change the mood of the film dramatically (Creative Blog staff, 2015), a well-done colour grading compliments the story and is not noticeable for the audience. However, while studying the subject more thoroughly I've started to notice how much impact the colour grading has for the mood and professional quality of the video.

Colour grading is not only about creating a certain style, it's also about matching the shots together and polishing the video. For it can be used to remove noise and distractions, such as strong elements that take the attention from the main character or important action of the film. "Knowledge gives control and control means you can manipulate and use colour to give your work a powerful and beautiful edge." (Lackey, R. 2015).

2 COLOUR CORRECTION

2.1 The basics of video colour correction



PICTURE 1. Footage before and after colour correction. Picture was shot with Sony Slog2 profile camera colour setting, original footage on the left, corrected footage on the right. Image by author.

Colour correction is about making the footage look natural to the human eye (Horton, A. 2016). The first step in colour correction is to fix the white balance and exposure problems. Exposure can be fixed by changing the general exposure levels with the functions available in the software that is used, or setting initial Lift, Gamma and Gain points. (Inhofer, P. 2016.)

In this project, the latter method for adjusting exposure was used, since adjusting Lift, Gamma and Gain points separately gives the user more control over the tonality of the footage than adjusting the whole exposure levels of the footage at once. Colour look up tables which are a mechanism used to transform a range of colours into another range of colours was also used (Wikipedia: Colour look-up table 2017). Colour look up tables are explained in more detail later in this thesis.

If the footage is shot with Log profile setting in the camera, which have a lot of colour information, but very little contrast, then in that case contrast is expanded during the colour correction process. Log profiles are used to get the most tonal range out of the sensor of the camera, which provides the best possible quality for colour grading (Taboada, E.M. 2012). Also noise problems that can appear due to aggressive ISO settings are fixed (Inhofer, P. 2016). In this section, the used methods of colour correction are demonstrated with visualized examples. The purpose of using Log profile was to have best possible quality for colour grading and learn how to edit a footage shot with Log profile.

2.1.1 Colour correction process

In this chapter, the process of colour correcting a video footage is explained with examples taken from the authors workflow. The basic steps of colour correction will be demonstrated with examples of functions used in colour editing program Davinci Resolve. The process of starting with unedited footage shot with Sony Slog2 profile and all the steps in the process with example photos until the finished colour correction are explained in this section.



PICTURE 2. Photo shot with Sony Slog2 colour profile. Image by author.

The image above is an example of a footage shot with Sony cameras slog2 profile, which has more colour information than standard colour profiles in cameras, therefore it has more colour range to modify the colours in the post production and better quality video can be achieved. Slog2 profile has very little contrast and saturation and therefore it has a lot of possibilities for modifying the footage to the desired outcome. From the waveform scope attached on top of the picture can be seen, that the tonal range, also called contrast is very narrow in the picture.



PICTURE 3. Photo with two Look Up tables applied on the footage. Image by author.

Picture 3 is an example of the first step of colour correction when LUTs are used. Two LUTs, Slog to cineon 10 and Arri Alexa LogC rec 709 are applied on the footage. From the waveform scope attached on the picture can be seen, that the tonal range of the photo is now wider than in the picture 2.



PICTURE 4. Exposure altered with setting lift, gamma and gain values. Image by author.

Picture 4 is an example of fixing the exposure using lift, gamma and gain values. From the waveform scope can be seen, that the waveform values are now closer to 0, which is the value of black and the mid tones fall in the midrange of the numbered values. White values are close to white which is the number 1023 in the waveform scope.



PICTURE 5. White balance altered using parade scopes. Image by author.

In picture 5 the white balance of the footage is altered by using parade scopes as reference. From the parade scope in picture 5 can be seen, that the red, green and blue channels are even, compared to the picture 4, where can be seen, that the blue channel is lower than other two colour channels, and green channel is slightly higher compared other channels. In the process of altering white balance colour wheel adjustments were used instead of overall hue and tint adjustments. The colour wheel adjustments give the possibility to control the tones separately in shadows, mid tones and highlights, giving the possibility to have more detailed and controlled colour correction for the footage. For example, skin tones usually fall in the mid tone range, using colour wheels gives the possibility to adjust highlights and shadow tones without affecting much of the skin tones. (Schenk & Long 2012, 349.)



PICTURE 6. Example of using colour wheels and overall adjustments for colour correction.

In the picture 6 the difference between using colour wheels and overall colour correction tools such as adjusting the tint are demonstrated. Picture on the top left is without colour balance altering. In the top right picture the colour balance has been altered with only changing the colour of the dark tones to achieve cooler temperature for the shot. Under the picture on the top right there's a screenshot of the colour wheel adjustments used. Although the picture in the top right has cooler temperature than the picture on the top left, the skin tones and the colour of the dress still look natural. Picture on the down left was altered with overall temperature adjustment to achieve cooler temperature. With overall adjustment, the temperature of the skin and the dress have unnatural blue tint, while the tones of the forest are still relatively warm.



PICTURE 7. Colour corrected footage with green tones adjusted. Image by author.

Lastly there is a little bit of fine tuning done for the footage in picture 7, this step is not a mandatory part of colour correction, it's more a matter of style, but with this particular footage it gives a vivid overlay for the photo. Green tones of the footage were isolated with a mask function in Davinci Resolve to make them greener and more pleasant for the eye. From the parade scope attached on the picture can be seen, that the green is now slightly higher than other two colour channels. Also, the contrast of background was reduced to make the character stand out.

2.1.2 Using Look up tables

“A color look-up table (CLUT) is a mechanism used to transform a range of input colours into another range of colours” (Wikipedia: Color look-up table 2017). Look up tables can be used as a starting point for colour correcting but also for stylizing footage in a similar way as filters are used in many video and photo editing software. There is ready made LUTs for different camera brands colour profiles, but sometimes using the ready-made LUT is not the best option. In this chapter a few examples of different LUTs are presented.

In the first example a LUT for Sony cameras Slog2 colour profile is used on top of a footage shot with the same colour profile. As can be seen from the waveform scope attached to picture 7, the preset is too bright, and doesn't provide the best starting point for colour correcting the footage.



PICTURE 8. A Sony Slog2 LUT applied on a footage shot with the Slog2 camera colour profile. Image by author.

After testing LUTs for Sony, LUTs made for other cameras were tested. The best result was achieved with a combination of two LUTs, Slog to cineon 10 and Arri Alexa LogC rec 709, following an example of a tutorial on Vimeo (Video tutorial: Colour grading Sony Slog footage – Davinci Resolve). In picture 9 first photo from the left is the original footage, the photo on the up-right corner has Slog to cineon 10 applied, this LUT makes the footage even less contrasty and saturated than the original. Photo on the lower right corner has Arri Alexa LogC 709 applied, this option looks quite suitable, but it has a bit too much contrast as a starting point for the colour correction. Last photo on the top right corner has a combination of both tested LUTs applied on it, this combination is subtler than Arri Alexa alone, but still gives a nice vivid coloured starting point for colour correction.



PICTURE 9. Footage shot Log camera profile with different LUTs applied on it. Image by author.

3 COLOUR GRADING

3.1 The basics of colour grading

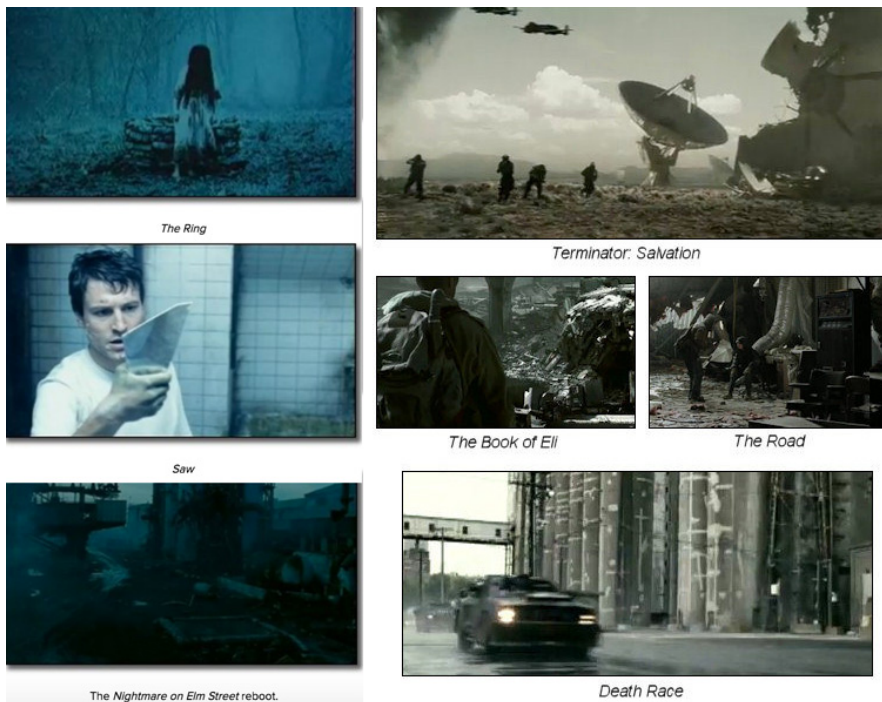
Colour grading is about creating a style for the video after the footage has been colour corrected. Colour grading is used to support the narrative of the film by creating an atmosphere that compliments the storyline. (Horton, A. 2016.) For example, in horror films darker and cool tones are often used as can be seen in picture number 10.



PICTURE 10. Screenshots are taken from a colour reel for the horror film *House on a pine street* as an example of before and after colour grading. (Horton, A. 2016)

3.1.1 Affecting the mood of a film with colour grading

Colour correction in films compliments the storyline by affecting the mood and guiding the viewers' attention to certain objects or actions. There are several different ways to use colour, sometimes very surprising and new ways, but also quite often there is certain established styles for certain genres of films, some of these are introduced below (Seitz, D. 2010).



PICTURE 11. Screenshots of films from horror and apocalyptic genres. (Seitz, D. 2010)

Quite often horror films are blue and dark toned (Picture 11), while apocalyptic films have low saturation to almost grey and washed out colour range. Films telling about alternative reality or scenes where alternative reality is taking place tend to be green, (picture 12) and films located in desert usually have a yellow tone. (Seitz, D. 2010.)



Fight Club



Smokin' Aces (Las Vegas)



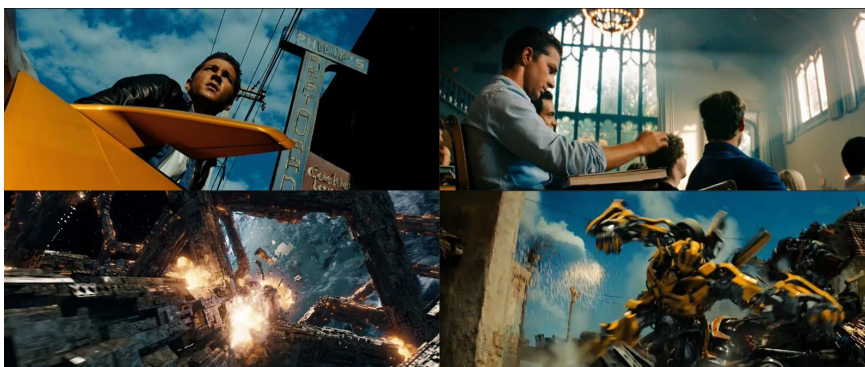
The Matrix films



The Hills Have Eyes (rural Nevada)

PICTURE 12. Screenshots of films about alternative reality and desert located films. (Seitz, D. 2010)

The fourth common colour style for films presented in this thesis is Blockbuster, also known as Orange and Teal look, is very iconic colour style seen in Hollywood films, especially action based. The blockbuster look is based on the use of complimentary colours blue and orange. Orange is used, because it's very close to skin colour, which makes the characters pop out effectively from the blue or teal background. (Cade, DL. 2017). In addition to skin colour, for example fire is also orange. Blockbuster look makes the orange fire stand out from the usually blue toned background, which makes Blockbuster look efficient for action movies that often have a lot of explosion and fire scenes. (Cima, R. 2015.)



PICTURE 13. Screenshots from the film Transformers 2. (Seitz, D. 2010)

3.2 Grading colour styles for survey

In this section, different colour styles for the videos of the survey and the process of creating them are presented. The workflow and methods used are visualized with example photos of different stages of colour grading.

The purpose of creating varying colour styles for a single video was to investigate how the audience will respond to them differently. What kind of feeling the audience gets from watching the videos, does a certain style make the audience think the movie presents for example a certain genre, and can the colour even change what the audience thinks the movie is about.

After shooting and editing several different materials a video with a simple action was chosen for the survey. Several different grades were created and five were chosen for the survey. During the grading process the aim was to create styles that differ from each other, to possibly change the emotional impact the video has on the viewer. Different style options were chosen by using observations of Dan Seitz about colour grading styles in movies (Seitz, D. 2010). In addition to the styles created on Seitz observations, different grading experiments were made and chosen by author.

In picture 14 the original footage, colour corrected footage and five different colour grading styles are presented. Version A in picture 14 is a screenshot from original footage, version B has colour correction applied on it, without any grading or particular style created. Version C in picture 14 is imitating orange and teal look, it has cool toned background and vivid orange tinted skin tones. Orange and teal look is very often used in action films particularly in Hollywood.

Photo D was graded to imitate a horror film look, according to Seitz's theory most of the horror films have blue tone (Seitz, D. 2010). Also in grading version D in picture 14 an appearance that the film is happening at night was tried to be achieved, although the original footage was shot at daytime. Exposure of the video has been lowered and blue is the dominant colour. Also, the lighting of the scene was recreated with masks, highlighting the character with brighter and more vivid tones compared to the background colours and lowering the exposure and saturation of the background.

In version E in picture 14, an experimental romantic film look was created with mimicking a vintage film look by making the dark tones brighter, warming up the tones to create orange as a dominant colour. Some glow effect was also added to the video. Version in picture 14 F a feeling of an apocalyptic film was tried to be achieved, it has low saturation and brown tint, the main character has slightly more saturated colours compared to the background to make the character stand out. Version G in picture 14 has a warm look, the dominant tone is yellow. The movie called *A Very Long Engagement* was an inspiration for creating the warm look in version G.



PICTURE 14. Original footage, colour corrected footage and five different colour grading styles. Image by author.

3.2.1 Creating Orange and Teal Look

Several different experiments were made trying to achieve an eye pleasing and high quality looking Orange and Teal look, also known as Blockbuster look. In this section three of the grading experiments and methods of grading them are briefly presented.

In picture 15 three examples of orange and teal grades. Picture A is an experiment inspired by film *The Aviator*, which has unique and memorable Orange and Teal colour grading style. In picture 16 which is screenshot of the film *The Aviator* can be seen that the green tones are close to turquoise and skin tones have red hue. Similar effect was tried to be achieved when grading the first orange and teal experiment in picture 15.



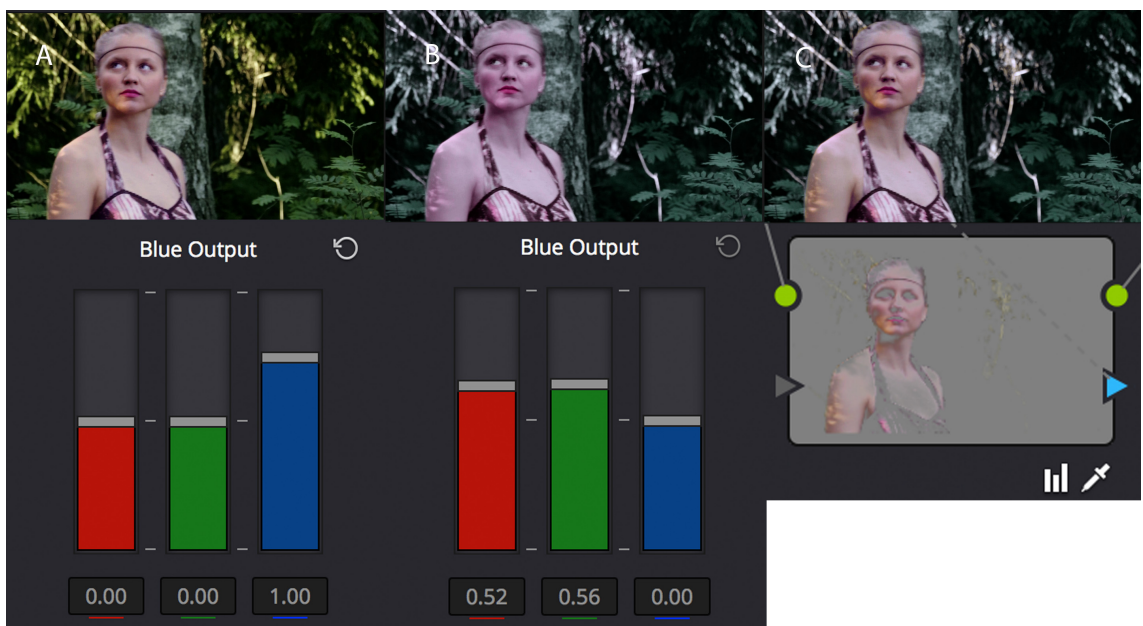
PICTURE 15. Three different orange and teal colour grading styles. Image by author.

Version B and C have a subtler orange and teal look compared to version A. These two versions were made differently, version B was made using a secondary colour correction method, which means manipulating certain part of an image by using a mask or keying method. Keying method is demonstrated later in this section. Skin tones were isolated from background and manipulated separately to achieve desired results.

Version C in picture 15 was made by using colour curves, the aim was to accomplish and orange and teal look without using secondary colour correction. Secondary colour correction is an effective method to manipulate details and colours of a video, but it's also time consuming when the details of an image are edited separately.

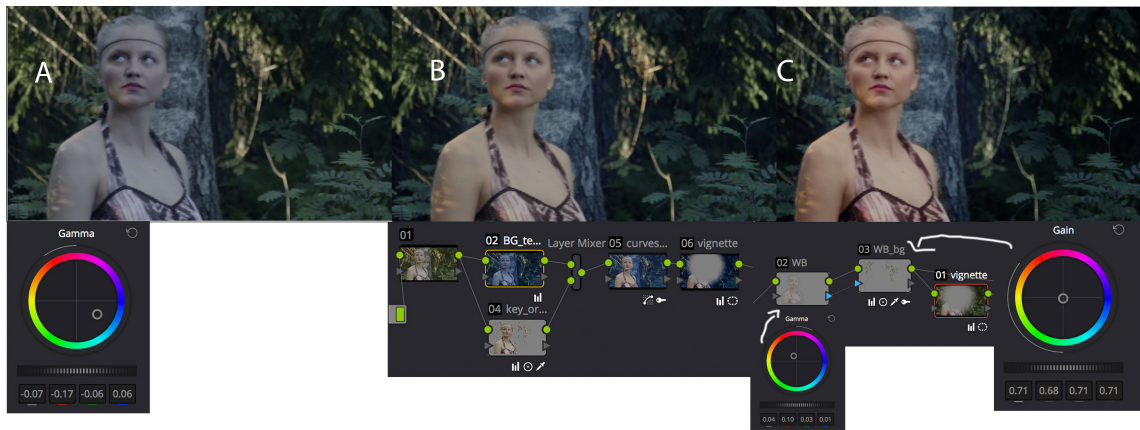


PICTURE 16. Screenshot from the movie *The Aviator*. (Video tutorial: 2014. Advanced color grading – 2 strip)



Picture 17. Screenshots of colour grading process for orange and teal look inspired by the film *The Aviator*. Image by author.

Colour grading process for first orange and teal look inspired by the film *The Aviator* was made by altering colour channels with RGB Mixer in Davinci Resolve. Picture 17 version A has colour correction applied on it. Under version A is a screenshot of blue output in RGB mixer in Davinci Resolve without altering the channels. In version B in picture 17, blue output of the picture has been altered with RGB mixer, blue channel has been reduced, green and red channels have been increased to highlight teal and red colours. In option C in picture 17, secondary colour correction has been applied to make the skin tones look natural. Skin tones have been isolated from other colours with a keying feature found in Davinci Resolve and warmed up by adding yellow. Now the green colours have a very similar tone than in the film *The Aviator*, (picture 16), but skin tones still look relatively natural.



Picture 18. Screenshots from the process of creating second orange and teal look. Image by author.

In picture 18 overall tone of the image is first adjusted to by adding blue to the mid tones in version A. In option B in picture 18 skin tones are selected by isolating them with key feature in Davinci Resolve and warming the tone of the isolated area with adding more yellow on it. Also, dark tones of the blue are increased with RGB curves. Lastly in version C in picture 18, the character is isolated with masking feature in Davinci Resolve and tones of the isolated area are warmed up by adding orange to the mid tones. Also, some small adjustments have been made to the background by isolating some of the bright tones on the tree with key feature and reducing highlights on the isolated area. Vignettes were made to bring the viewer attention on the main character of the shot by making the background slightly darker than the surrounding of the character with a circle mask found in Davinci Resolve.



Picture 19. Screenshots of different stages of creating third Orange and Teal Look.

In picture 19 the workflow of creating and orange and teal look with curves is presented. Version A in picture 19 is colour corrected footage, to demonstrate the starting point of the grade. In version B in picture 19, dark and mid tones are reduced to create contrast. In version C in picture 19 curves are used to alter the colours. Red channel is reduced from dark tones and increased in highlights to make the skin colours have red tone on them. In blue and green channels, dark tones are increased and highlights decreased to achieve a teal tone in the background. Lastly the same masking method was used as in the previous look in picture 18 to make the character stand out from the background.

3.2.2 Creating Night Look

Night grade was made by changing the tone of the picture to have a blue tint and using composite modes to make the blue colour effect on particular areas of the picture. To make the scene look like night additional lighting was made by using mask and key features in Davinci Resolve. Night grade was an experiment changing footage shot on day-time to look like night. In picture 20 the change from day to night is presented, original footage at the left, graded footage in the centre and at the right.

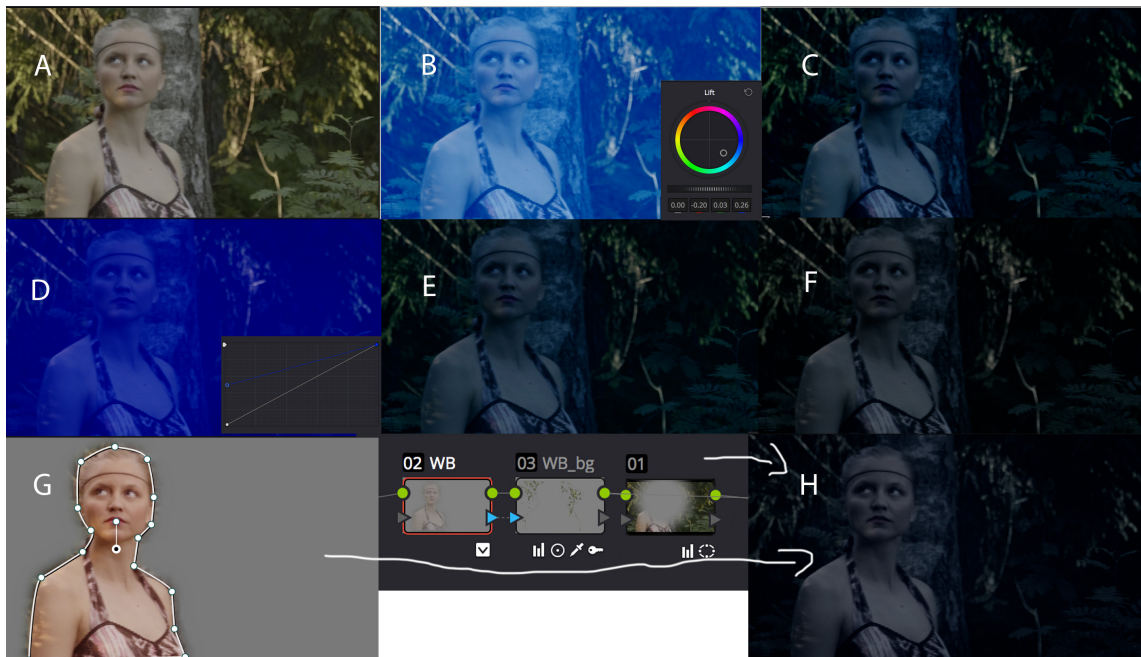


Picture 20. Change from day to night with colour grading. Image by author.

In picture 21 the workflow of night grade is demonstrated, version A is original footage with no grade applied on it to demonstrate the starting point of the grade. In version B in the picture 21 blue tones have been added to the shadows using a colour wheel tool in Davinci resolve and in version C a layer composite mode called multiply is used to make blue tones effect on more on the shadow areas of the picture.

In version D in picture 21 more blue tones are added to the picture with using the curves tool by lifting the blue point up from the shadows. Also, the footage is darkened with altering lift and gamma values by using colour wheel tools. In version E in picture 21 a layer composite mode called luminosity is used to make the blue tones affect only certain part of the picture. In version F in picture 21 saturation value is lowered, since at night less colours are visible to the eye. In version G in picture 21 the character is isolated from the background with using a mask tool in Davinci Resolve and colour wheel tools are used to add orange to make the skin tones look natural, also the gamma value is increased a bit to make the character look brighter. Effect made with mask is made less visible by lowering the opacity of the mask layer.

Lastly in version H in picture 21 some of the light tones in the background are made darker by isolating them with a keying feature and reducing gain values with colour wheel tool. Also, the background was made darker by making a vignette by using a mask tool. The additional light created for night look was also used later on other grades with low opacity values to make the character stand out from the background.



Picture 21. Grading process from day to night. Image by author.

3.2.3 Creating Romantic Vintage Look

In grading romantic vintage look the idea was to grade a dreamy and warm feeling with glow effect. In picture 21 the steps of creating romantic vintage look are presented. In version A in picture 21 is colour corrected version with a bit of contrast applied on it. In version B in picture 21 the shadows of the picture are altered with low soft feature found in Davinci Resolve to reduce the contrast in shadow areas, and aim to the feel of videos shot with old film cameras that tend to have low contrast especially in the black areas.



Picture 21, process of creating romantic vintage look. Image by author.

Version C in picture 21 has orange tint added to it by altering mid tones with a colour wheel function in Davinci Resolve, to achieve the desired glow effect, blur effect was added, but in this version the blur affects the entire photo. To make the image subtler and make the glow effect affect on part of the image, a layer composite mode called screen was used in version D in picture 21. Version F in picture 21 has a glow effect found in Davinci Resolve added on it, but it doesn't provide the desired outcome yet. To make the glow effect on desired parts of the image, such as highlights and main character, experiments were made with settings of the glow effect and changing layer composite mode. In version F in picture 21 settings of the glow effect were changed and layer composite mode was changed to overlay to achieve desired glow effect and colours.

Lastly some small adjustments were made with experimenting with other looks and effects created by the author. In version G in picture 21 a warm look was created by author was added with low opacity to give the picture warmer tone and add a bit contrast on the character. The creation of the added warm look is explained later in this thesis in the section "creating golden look". In version H in picture 21 the lighting effect used for the night grade was added with low opacity to make the character stand out more from the background.

3.2.4 Creating Apocalyptic Look



Picture 22. Process of creating apocalyptic look. Image by author.

Apocalyptic colour grade was made according to Seitz's theory which assumes that most of the apocalyptic films have desaturated look (Seitz, D. 2010). Also the look of the film *Resident Evil: The Final Chapter* was used as reference when making than apocalyptic grade. In picture 22 the version A is without colour grade. Version B in picture 22 has a bit of desaturation and contrast on it, also the light tones are altered separately by isolating them using the key feature in Davinci Resolve and setting up the gain with colour wheels to add more light to the scene.

In version C in picture 22 sepia tone was created by altering the overall colour of the image by adding orange tint with using colour wheel feature and lowering saturation value, creating brown tint to the image. In version D in picture 22 saturation was reduced to create more apocalyptic feel to the grade. Lastly, in version F in picture 22 the night light effect made earlier, which is explained in the night grade, was used to give more colour and additional light to the main character and to make the character stand out from the background. In picture 23, which is a screenshot from a trailer of the film

Resident Evil: The Final Chapter, can be seen, that the main character has more colour and is brighter than the background characters.



Picture 23. A screenshot a trailer of the film Resident Evil: The Final Chapter. (Barkan, J. 2016)

3.2.5 Creating Golden Look

In addition to Romantic Vintage look another warm look was added for the survey. Golden look was inspired by the movie A Very Long Engagement. In creating golden look, the look and feel of the movie A Very Long Engagement worked as an inspiration, but the golden look was made subtler and has more natural skin tones.



Picture 24. The process of creating the Golden look. Image by author.

In picture 24, version A is without grade to give a reference of the starting point for colour grading. In version B in picture 24 contrast for the picture was added by using curves tool. Yellow tone for the golden look was also made with curves tool by reducing blue tones from the picture. In version C in picture 24 blue tones were first reduced from the light tones and in version D blue tones were reduced a little bit from the mid and dark tones to add yellow tone for the picture. Also, some glow effect was added to the highlights by using blur effect and setting the layer composite mode to lighten, which makes the effect affect only on light tones. Lastly, the light effect made to the night grade was added with low opacity to make the skin tones look natural and make the character stand out from the background.



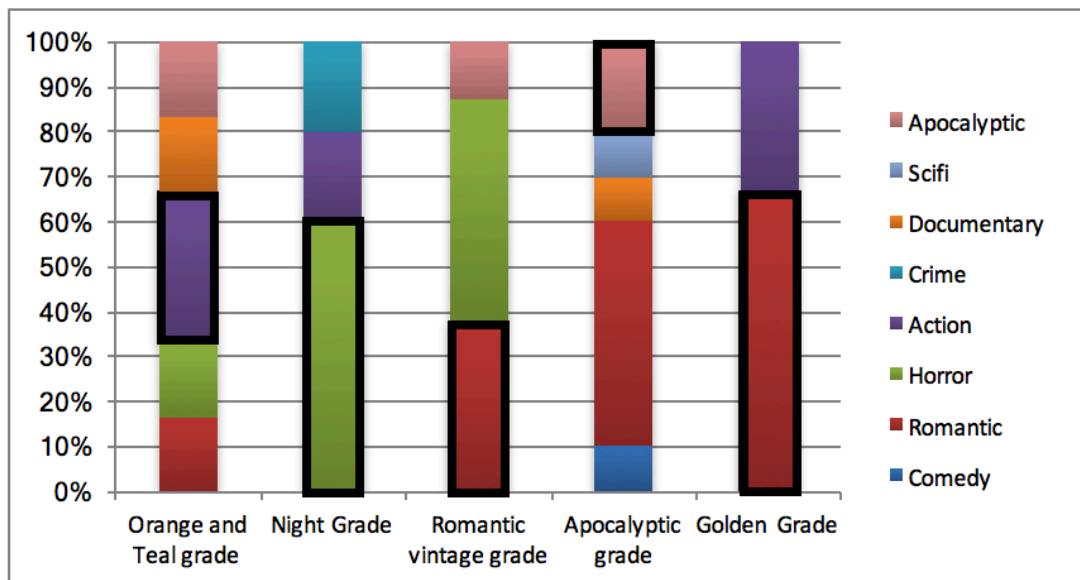
Picture 25. A Screenshot from a movie A Very Long Engagement. (Henderson, N. 2012)

4 SURVEY

In the survey, one video with related questions was presented at the time for one survey participant. The viewing of the videos was randomized so that when a participant enters the survey one cannot choose which video to watch, the videos presented to the participant are chosen randomly, and the randomization is done by a simple code snippet.

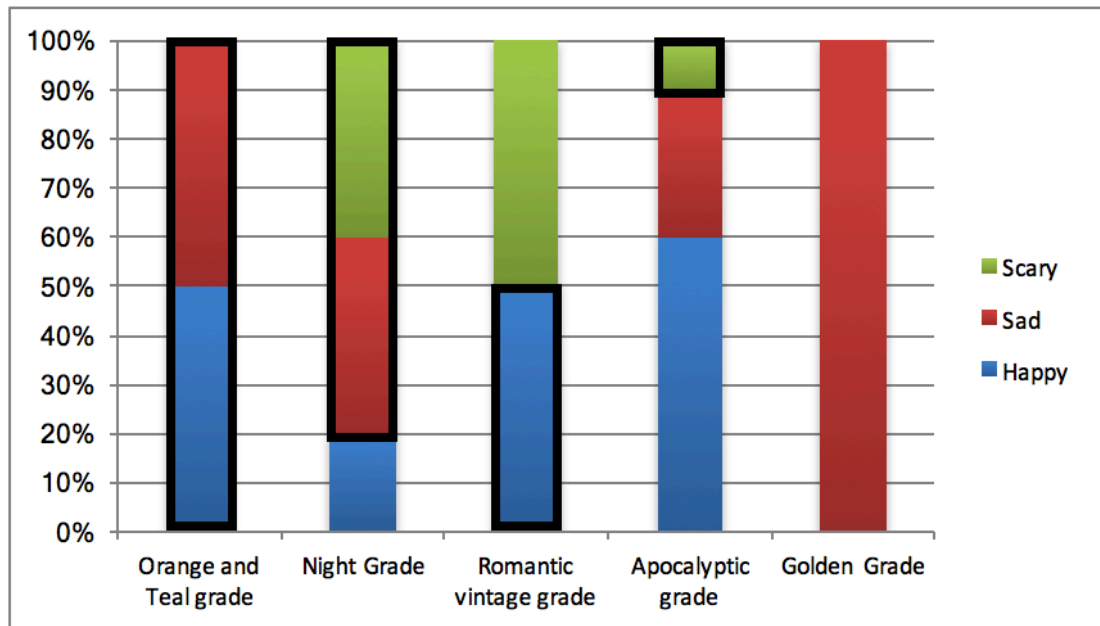
The results were analyzed based on the data collected and compared to the original suppositions of the author. The purpose of the survey was to investigate how much different colour grading affects the answers of the questions when the participants are watching the same video with a different colour styles.

Video styles in the survey are presented in the same order as the grades are presented in this thesis, starting from the video with orange and teal look and ending with the video with Golden look. Two videos were with styles tested according to Seitz theory about common colour styles in different genres. Night grade had a blue tint on it, imitating a horror movie style. Romantic vintage grade was an experiment imitating a vintage look and creating a warm feeling for the video with glow effect. Apocalyptic grade had desaturated colours with brown tint. (Seitz, D. 2010.) The brown tint was chosen by imitating the style of the movie *Resident Evil: The Final Chapter* and also by observing the overall style in apocalyptic movies. Golden grade was an experiment inspired by the movie *A Very Long Engagement*.



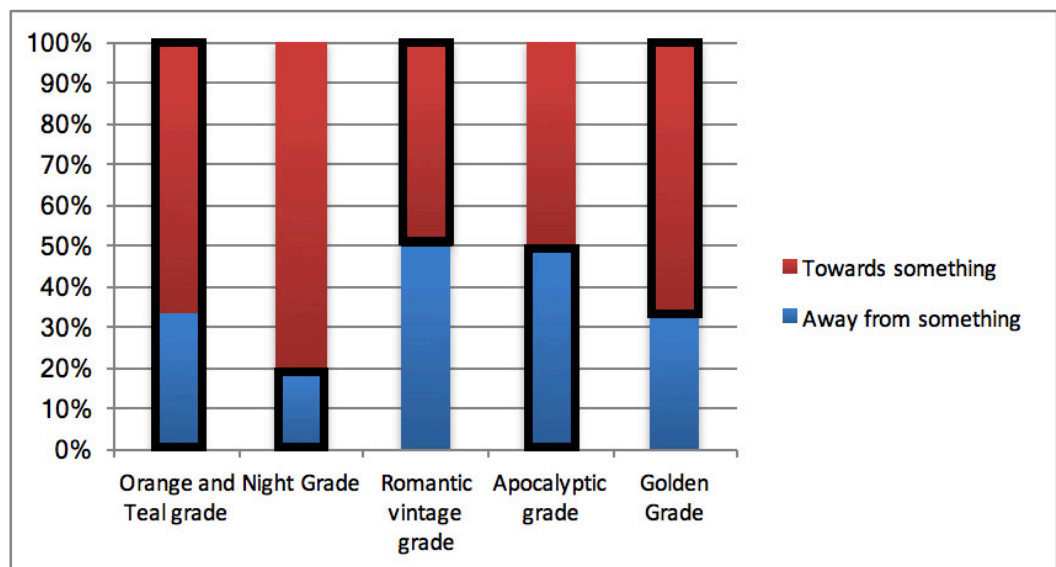
Picture 26. An excel chart of answers in a questionnaire. Authors objectives are marked with black bordered square. Image by author.

Picture 26 is demonstrating the answers for a question in the questionnaire, authors objectives are marked with black bordered square. The participants were asked what genre they think the video has, the objective of the author was, that based on the orange and teal grade, the video would seem like an action movie, 29 percentage of the participants answered according to authors objective. In night grade video option the percentage of participants answering according to authors objective was 60. In romantic vintage grade video option 39 percentage of the answers were according to author objective, in apocalyptic grade the percentage was 20 and in golden grade 67. Overall percentage of answers matching the authors objectives was 43.



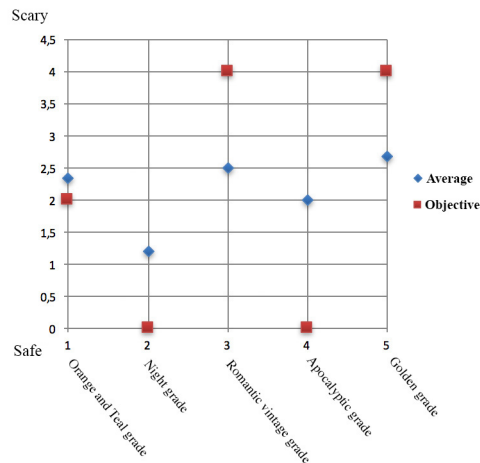
Picture 27. An excel chart of the videos emotional impact on viewers. Authors objectives are marked with black bordered square. Image by author.

Picture 27 is visualizing the answers for a question what kind of emotional impact the video had on the viewers. In orange and teal video option the percentage of participants answering according to authors objective was 100, in night grade 80, in romantic vintage grade 50, in apocalyptic grade 10 and in golden grade 0. Overall percentage of answers matching the authors objectives was 48.



Picture 28. An excel chart of answers in a questionnaire. Authors objectives are marked with black bordered square. Image by author.

Picture 28 is visualizing the answers for a question where the viewers think the character is running. In orange and teal video option the percentage of participants answering according to authors objective was 100, in night grade 20, in romantic vintage grade 50, in apocalyptic grade 50 and in golden grade 67. Overall percentage of answers matching the authors objectives was 57,4. The purpose of the question was to examine if the colour impact how the viewers experience a certain act in a movie. The answers were varying a bit between different clips, but there was not enough data for reliable analyse.



Picture X. A graph demonstrating how the participants of the questionnaire felt about the forest in the video. Image by author.

In picture X the answers of the participants are marked with a blue square and suppositions of author with red square. From the graph can be seen, that the average answers are all in the same direction in the graph as the authors objective, only more in the middle. Based on this graph could be assumed that the colour could have effected on the answers according to authors idea when creating different grading styles, but the effect wasn't as dramatic as the author assumed.

The videos created for the questionnaire are available behind this link:
<https://www.youtube.com/channel/UCECDmcnR1RAhxnXYneatynA/videos>

5 DISCUSSION

Making a completely neutral video for testing only the mood achieved by colour grading proved to be challenging. Lot of other things, like the way the video was shot, the actors gestures and expressions, clothing, shooting location and editing affected the mood of the viewers as well. Despite this, the responses varied a lot between different grades.

The survey was made to see if it's possible to examine only the effect of a colour in video and the results are varying between different video clips, according to this information it could be possible to research the effect only colours have on video. Many answers were close to the expectations of the author, only one question in one video colour option had completely different answers than the author expected for the particular grading style. Based on the answers of the questions how the participants experienced the forest, the average of the answers was close to authors expectations, only closer to neutral values.

All together 30 survey replies were collected. As an amount it can't be used to draw reliable conclusions of the affect colour grading specifically had on the results. Despite that it gives a good base for further testing and provides good pointers on how color grading can affect the viewer's mood in different or even surprising ways depending on the context.

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